

Africa and the Digital Information Commons: An Overview¹

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ABSTRACT: Digital technologies and global electronic networks present unparalleled opportunities for international knowledge sharing and collaboration. But these same technologies and networks can also be used by authors in ways that significantly limit access and sharing for the purposes of education, innovation, and development. Through the efforts of librarians, archivists, academics and activists, vast new reserves of information and knowledge are being made available for free public consumption, and even adaptation, on the Internet. At the same time, however, electronic networks and digital technologies are being used to limit non-commercial access to some learning materials. For example, large educational publishers charge high subscription fees to universities for access to databases, with restrictions on use that are often more prohibitive than in the offline, paper-based environment.

This fundamental schism present in the digital, globally-networked era — between the building of an “information commons” on the one hand, and the privatisation of knowledge on the other — is generating a variety of dynamic activist responses, including the free/libre open source software (FLOSS) movement, the “open access” movement in scholarly communication, and the “open content” approach to online sharing and collaboration among authors. The open access movement revolves mostly around the practice of academics making their research outputs and writings freely available on the Internet, either through open access online journals or online institutional repositories (archives). The open content movement is in some cases even broader than open access, encouraging online adaptation of materials by users, with the Wikipedia collaborative encyclopedia being perhaps the best-known such project. Another important open content initiative is the Creative Commons (cc) licensing system, which allows authors to adopt a “some rights reserved” approach when publishing their materials online. Under the terms of a cc licence, users are permitted unlimited copying and distribution of materials, and in some cases, are permitted to even adapt and/or derive commercial benefit from the materials. Open access and open content initiatives aim not to eliminate copyright in the online environment but rather to ensure that copyright does not restrict the potential of new technology to overcome barriers to access and innovation.

The debates around the information commons and the restrictive practices of copyright rights-holders in the online environment are of particular relevance to the developing world and the African continent. Much of the world’s copyrighted material is owned by developed-world multinationals, leaving developing nations as the “payers” or consumers of knowledge and culture, and the developed world as the “payees” in much of the flow of monetary value derived from copyrighted materials. This article outlines the global information commons debates and players, and then focuses on efforts to maximise the potential benefits of digital networks for the developing world, and in particular Africa.

INTRODUCTION

As Lawrence Lessig (1999, 2004) and others cogently argue, the digital revolution is a decidedly two-sided phenomenon in respect of openness and creativity. On the one hand, the

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Internet allows traditionally passive “users” to become active “participants” in the construction of meaning and the publishing of creative and innovative works. In a network where the power to publish is found at the “ends” of the network, everyone with an Internet connection can have instant access to a potential audience of billions around the world. On the other hand, there is a significant move by traditional “publishers” to set up barriers that threaten the potential of the digital realm to level the playing field. There is an overly-aggressive pursuit of copyright protection by “entrepreneurial authors” (publishers, record labels, and so on), who are not the authors of the relevant creative works but who were assigned the copyright in the creative works when their authors signed contracts with them to publish their work.

For authors, the digital age is seen as one of both threat and opportunity. Digital technologies present clear challenges to authors (such as how to control mass, high-quality reproduction of illegal DVDs), while at the same time providing new tools for the authors to restrict use (such as the digital rights management (DRM) tools on the Internet). Best known are the battles around music and film reproduction, which are essentially battles around entertainment content. But the practice of copyright protection in the digital realm goes far beyond these areas and includes more “serious” types of copyright material, such as software, academic journals, research outputs, and electronic databases of educational content. Battles over access to these knowledge resources get much less mainstream attention than the stories about clampdowns on pirated DVDs and peer-to-peer (P2P) music sharing. Not much is said in the mainstream media about the struggles of people who wish to copy and share not for entertainment or commercial gain but rather to educate or to further their ideas. There are librarians, educators, and researchers the world over who have little interest in downloading or buying illegal copies of entertainment content; instead, they want to make copies of readings they find online for students, or to distribute their research freely online, or to give students free access to academic databases.

Digital technologies and international networks make it possible for a student or researcher to access unparalleled amounts of information on which to build and with which to innovate. The Internet also provides an opportunity to slash the costs of academic publishing, allowing academics, researchers and scholars to engage in a continual process of self-publishing and interactive editing. There is great excitement about these possibilities. But at the same time many of the opportunities afforded by new technologies are being limited by a system of copyright and parallel technical measures that emphasise only “protecting” content and distributing content to a limited fee-paying audience – a system and measures based on an “all rights reserved” approach to copyright that allows publishers, even publishers of what is clearly publicly-funded, public-interest content (such as the outputs of

publicly-funded universities), to charge high fees, or impose highly restrictive conditions, on the use of such content.

The opponents in this battle between open access and private control of public-interest content are by no means evenly matched. The large global publishing firms, often conglomerated with other media and communications interests, have significant market power. History has shown that unfettered market mechanisms cannot always be relied upon to determine which economic relationships best serve societal development, particularly in times of rapid innovation when there is much to be gained by reshuffling power to the ends of the network. For the countries of Africa, which can be said to sit at the ends of the global knowledge chain, alternatives to traditional copyright and traditional publishing, made possible by the digital networked online environment, have much to offer. African governments, firms, librarians, researchers, teachers, and artists need to investigate which online digital models work best for the continent, with the aim of stimulating local creative and publishing sectors, engendering more relevant education, and boosting local technology sectors.

COPYRIGHT VERSUS THE COMMONS

The history and practice of copyright protection, and the way that it has evolved in the digital networked dispensation, are covered in detail in other articles in this volume (see, for instance, Schonwetter 2006 and Masango 2006 in this volume). Suffice to say here that there is general agreement that copyright – control by an author over copying and other uses of her work – is necessary to encourage and reward authors. However, there is also agreement that there should be significant public-interest exceptions to copyright. At present, these public-interest exceptions (for “fair dealing” in South Africa and the United Kingdom, for example, or “fair use” in the United States) are seen by many as too narrow. In the digital networked environment, there is the potential for even further narrowing. Typical fair-dealing exceptions only allow very small portions of books to be copied for educational use, and, as outlined by Schonwetter and Masango, the digital environment is in some respects creating a greater narrowing of the scope of fair dealing. For example, restricted-access online materials protected by copyright may well remain behind digital walls even after their copyright terms expire, with it being left up to the authors to monitor and implement the releasing of works into the public domain. Also, as Masango suggests, an academic library’s collection may shrink from one year to the next in the digital environment, depending on whether or not the library can afford the annual licence fee for a database or journal. Once an electronic database or journal subscription expires, the library’s users lose access to it. It is there one year and gone the next. This is a significant change from the offline dispensation where subscribing to a journal meant the library had hard copies to keep in perpetuity in its collection. In an age where permission to access knowledge is automated on a global network,

databases “see” potential users merely in terms of their ability to pay. Fair dealing uses of copyright material in education and learning, in scientific development and by differently-abled people and those from low-income countries, are ignored. Digital rights management (DRM) and technological protection measures (TPMs) – the technologies that build digital walls in front of knowledge and information – shut out a number of legitimate activities, threatening the kinds of flexibilities and exceptions that we have taken for granted in the past (see Visser 2006 in this volume for more on TPMs).

The way that copyright law is being deployed in the digital online environment is not just restricting potential access. It is also, according to Lessig (2004), putting a brake on creativity and innovation. Lessig’s book, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*, is protected by copyright in its hard-copy form, but its electronic version is readable and downloadable for free on Lessig’s website. Lessig is not anti-copyright or pro-piracy; he is in favour of copyright if it is applied in a flexible manner that maximises the creative, innovative, and informational potential of the online networked space. The Creative Commons (cc) flexible copyright licensing system that Lessig helped develop allows authors to adopt a “some rights reserved” approach to their works. When using a cc licence, the author or creator specifies which uses she will allow others to make of her work and attaches the appropriate cc licence to the work online, thus providing copyright clearance to certain uses upfront, as a tag or “welcome mat” to the file on the Internet (see Keats 2006 in this volume for more on cc licensing). The cc project and other open content projects are premised on the idea that much of the information and creativity that is being kept out of the information commons on the grounds of copyright protection is actually of little or no commercial value, and is being held out of the public domain due to the overzealous behaviour of rights-holders.

When the Internet first arrived, many predicted that copyright would go into decline. Such types of predictions are not uncommon when a new technology is introduced. Similar pronouncements were made at the advent of audio and video recorders. However, Lessig (1999) argues that digital technologies have actually enabled copyright owners to replace the “sufficient control” granted them by traditional, balanced copyright laws with a new “perfect control”. The Internet has enabled citizens’ engagement with culture and copyright material to be perfectly regulated by “code” – a privatised enforcement of the law which is, in fact, more effective for private firms than what the law and behavioural norms could previously achieve. In the digital realm, no distinction (or allowance) is made for when one wants to copy or adapt or distribute for the purposes of personal study or research, or for porting into different formats for the blind, for example. Liang (2004) has noted the gradual shift in the focus of copyright over time. Copyright laws first emerged in Renaissance Europe as a means to

regulate the printing industry. Then the focus fell on protecting the rights of authors. Later, writes Liang, “with globalised capitalism, control over copyright works became centered in the hands of media corporations instead of authors and artists” (Liang, 2004: 13).

Today’s calls for a digital “information commons” are adaptations of the much older notion of the rural pastoral commons, which was a piece of land used and shared by a community to graze cattle or grow crops, with no one person or household directly owning the land. In the commons structure, the users have both rights and obligations – rights to use and obligations not to misuse. At base, the logic of the commons rests on the idea that shared ownership and management of a resource will allow for more productive and innovative use, and that, by extension, an essential resource should not be distributed and accessed via a system based on market values and subject to commodification. In the words of the American Library Association’s Information Commons Project Working Group, “... information has necessary uses that transcend the values of the marketplace and we accept that the marketplace alone cannot adequately meet the information needs that fall outside the realm of its value system” (ALA, 2001). Extending the metaphor of the pastoral commons into today’s reality, Boyle (2003) writes that there is a need for a new kind of “environmentalism” when it comes to public knowledge – a mapping out of what needs to be protected and propagated.

However, Lessig argues that the information commons has one significant difference from the pastoral commons. Knowledge, unlike land or physical objects, is not depleted when it is given to others; it does not become scarcer with use, and one person’s use of it does not, for the most part, limit another’s use. Knowledge, unlike other forms of “property”, is a “non-rivalrous” good. If you take a pen out of someone’s pocket, that person no longer has that pen. But if the person tells you something, she still has that knowledge, even though she has shared it with you. In fact, knowledge is a resource that can grow in value when shared. With the costs of duplicating and sharing information being lowered so significantly in the Internet age, the potential for the knowledge commons becomes immense. Brewster Kahle of the Internet Archive project in San Francisco has declared that, for the first time in history, access to all human knowledge is technically possible.

WIPO, THE GENEVA DECLARATION, AND THE DEVELOPMENT AGENDA

The critique from the developing world is that the World Intellectual Property Organisation (WIPO) – mandated to balance the rights of authors with the rights of users – devotes far too much energy on the former. Rather than seeing to its mandate of encouraging technology transfer to developing countries and encouraging innovation with whatever means possible (not necessarily strict intellectual property protection), WIPO has instead focused on growing enforcement of intellectual property. This has led to the push for a WIPO Development Agenda

and for an access to knowledge (A2K) treaty, both of which are outlined below. WIPO had its beginnings in the late 19th Century, with the Paris (1883) and Berne (1886) Conventions on intellectual property. The Paris Convention tried to provide international protection to industrial property, while the Berne Convention sought to protect the rights of authors of literary and artistic works. Berne was thus a key early moment in the international standardisation of ideas around copyright. The 1967 Stockholm text of Berne introduced the idea of copyright exceptions and limitations – situations where permission need not be sought from the author. The Stockholm text applied to the reproduction right (copying), but not to other rights exclusively reserved for the author, and set out what has come to be known as the “three-step test” for establishing whether copying should be allowed. This test, in article 9.2 of the Berne Convention, states that, in order to be exempted from normal copyright protection, a reproduction must:

- be for a specific purpose (“in certain special cases”);
- “not conflict with a normal exploitation of the work”; and
- “not unreasonably prejudice the legitimate interests of the author”.

This three-step test became even more important in 1995, when the World Trade Organisation (WTO), in its Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), adopted the three-step test as the touchstone for all copyright exceptions and limitations permissible in national laws, thus giving the notion of copyright exceptions power in the system of global trade rules. The three-step test provides some backing for the fair-dealing or fair-use provisions adopted in national legislation in many countries to allow for permission-free use of copyright materials for certain educational and personal research purposes (see Schonwetter 2006 and Baude *et al* 2006 in this volume for more on the three-step test).

The *Geneva Declaration on the Future of WIPO*, drafted in October 2004 by activists gathered for the WIPO General Assembly, begins by saying that “[h]umanity faces a global crisis in the governance of knowledge, technology and culture”, and outlines the harm caused to developing nations by:

- unequal access to essential medicines;
- unequal access to education, knowledge, and technology;
- anti-competitive behaviour on the part of intellectual property rights-holders;
- barriers to “follow-on innovation” (derivative works) by authors;
- ownership concentration in intellectual property industries;
- technological protection measures that “threaten core exceptions in copyright laws for disabled persons, libraries, educators, authors and consumers, and undermine privacy and freedom”;
- lack of fairness in compensation of authors (individuals and communities); and

- misappropriation of, and limited access to, “social and public goods” that should be in the public domain.

Following the release of the *Geneva Declaration*, the WIPO General Assembly adopted a proposal put forward by Argentina and Brazil for “the Establishment of a Development Agenda for WIPO”, which led to the convening of three WIPO Intersessional Intergovernmental Meetings (IIMs) in Geneva on the Development Agenda in 2005. At the first IIM in April 2005, a proposal was put forward by the group of 14 countries dubbed the “Friends of Development” (FoD): Argentina, Bolivia, Brazil, Cuba, Dominican Republic, Ecuador, Egypt, Iran, Kenya, Peru, Sierra Leone, South Africa, Tanzania and Venezuela. The FoD proposal focused on four themes:

- reformed WIPO governance and accountability;
- a new set of guiding principles, including the need for sustainable development impact assessments (DIAs);
- technical assistance aimed at helping developing countries make use of flexibilities in international agreements; and
- greater WIPO efforts in the area of technology transfer to developing countries.

A United States counter-proposal at the first IIM called for much less radical reform. The second and third WIPO Development Agenda IIMs, in June and July 2005, ended in a similar stalemate, with the United States joined by Japan in trying to limit the scope of reform. However, the 2005 WIPO General Assembly did decide that the Development Agenda discussions should continue for another year, and a Provisional Committee was set up “to take forward the IIM process to accelerate and complete the discussions on proposals relating to a WIPO Development Agenda and report with any recommendations to the General Assembly at its September 2006 session” (WIPO, 2005c). Another element of the “Development Agenda” movement is the work by civil society organisations towards an access to knowledge (A2K) treaty. There were two A2K treaty meetings in 2005, in Geneva and London, working on a document that activists hope could become a full United Nations treaty. The A2K treaty discussions have a strong human rights perspective, seeing access as the default position rather than the exception.

WTO TRIPS, TRIPS EXCEPTIONS AND ‘TRIPS PLUS’

TRIPS takes many of the provisions of the Berne Convention and other WIPO-administered treaties and gives them power at the level of the international trading system. Significantly, TRIPS includes:

- rules for “compulsory licensing” of generic manufacturers of still-patented drugs, and governmental use of patents without the authorisation of the patent owner;
- “parallel importing” of patented drugs found cheaper in a third-country market; and

- application of the Berne three-step test for copyright exceptions to not just the right of reproduction but to all rights exclusively reserved for authors.

De Vuyst *et al* (2003) argue that the TRIPS drafters clearly intended to balance the interests of the rights-holders with the interests of the public. Before TRIPS, the use of exception provisions in the realm of copyright was primarily through the fair-dealing provisions in many national copyright laws – exceptions allowing for limited copying, performance, display, and distribution of works for educational and personal research uses, as well as for news coverage and criticism. With TRIPS in place, there is now an emerging view, represented to some extent in the A2K treaty movement, that educational materials can be treated in a manner similar to essential medicines (see Baude *et al* 2006 in this volume for more on TRIPS exceptions and learning materials). Several nations have already used the TRIPS provisions for compulsory licensing and parallel importing to improve access to essential drugs in their countries. South Africa was the site of a major struggle around compulsory licensing in 2001, when 39 pharmaceutical firms took on the South African government over a law allowing easy production and importation of generics for use in anti-retroviral AIDS treatment. The companies eventually dropped the legal action, after international protest. One of the companies, GlaxoSmithKline, decided to grant a voluntary generic production licence for AIDS medicines to Aspen Pharmacare, a South African generics-maker (De Boer, 2005).

However, there are also countervailing forces at play around TRIPS exceptions, with powerful trading nations such as the United States and the European Union pushing countries and regions, via free trade agreements (FTAs), to offer even greater copyright protection, and fewer exceptions, than those provided by TRIPS. The expression “TRIPS Plus” has been coined to describe such FTA provisions that go beyond TRIPS in favour of rights-owners. The United States government justifies inclusion of these provisions on the grounds that some American intellectual property laws and regulations go well beyond TRIPS. For example, the Digital Millennium Copyright Act (DMCA) of 1998 eliminated elements of the American copyright exception that allowed non-profit organisations to do Braille translations of books for blind users and disallowed the circumvention of technological protection measures (TPMs) for e-books (Prabhala & Caine, 2005). The DMCA also implicitly curbed the growth of the public domain by granting broad protection to the use of TPMs (see Visser 2006 in this volume for more on TPMs). Another 1998 American statute, the Sonny Bono Copyright Term Extension Act, extended the duration of American copyright by 20 years. Before this act, copyright lasted for the life of the author plus 50 years. Now copyright in the United States lasts for the life of the author plus 70 years in the case of individual works, or 75 to 95 years in the case of works by more than one person (see Rens & Lessig 2006 in this volume for more on copyright term extension).

FLOSS, OPEN ACCESS AND OPEN CONTENT

The current information commons movement contains echoes from the beginnings in the 1980s of the free/libre open source software (FLOSS) movement. The GNU Project founded in 1984 began the development of free and open source software based on the Linux kernel. The Free Software Foundation's GNU General Public Licence grants recipients of a computer program the freedom:

- to run the program, for any purpose;
- to study how the program works, and modify it;
- to redistribute copies; and
- to improve the program, and release the improvements to the public.

GNU gave birth to the Linux kernel, with this kernel's source code since adapted into hundreds of different versions of the operating system.

FLOSS is a direct challenge to copyright because it provides free access to software source code and uses decentralised, collaborative modes of development, thus illustrating the innovation and creativity possible when ideas are shared openly. An early FLOSS ally was the Electronic Frontier Foundation (EFF), one of whose founders, *Grateful Dead* lyricist John Perry Barlow, wrote the 1996 *Declaration of the Independence of Cyberspace*. The declaration begins:

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather (Barlow, 1996).

Today the FLOSS ethic can also be found in the "open access" and "open content" movements. Open access scholarly communication makes research outputs and academic writings available for free through on the Internet. In the words of the 2002 *Budapest Open Access Initiative Statement*:

[a]n old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the Internet (OSI, 2002).

The *Budapest Statement* makes the claim that open access scholarly publications can be viable even without charging subscription or user fees, because they give authors "vast and measurable new visibility, readership, and impact" (OSI, 2002). There are two main types of open access publishing: open access journals, and open access archives/repositories. An example of an open access journal is *First Monday*, established in 1996 as an entirely online peer-reviewed monthly journal with articles about the Internet. One of the best-known

archiving projects is Brewster Kahle's Internet Archive. Meanwhile, academic institutions are developing institutional repositories, where research outputs and even courseware are being made freely available.

Linked to the open access movement is the drive for open content, which sees every "user" as a potential creator of culture and meaning. Open content licences provide for a wide range of explicit rights to both use and adapt online materials (writings, music, video, and so on). Aiming to break down the "all rights reserved" approach to information and creativity upheld by copyright law, open content practitioners explicitly forego certain copyright rights in order to encourage collaboration and wider use/exposure for their works. Creative Commons (cc) is an open content initiative (although some of their licenses don't allow derivatives to be made), and through cc millions of creative works are now being made available, on a "some rights reserved" basis, on the Internet. While cc clearly borrows from the strategies of the GNU General Public Licence (GPL), cc founder Lawrence Lessig points to some important differences:

When Richard Stallman launched the Free Software Foundation just over 20 years ago, he was responding to something new in the world of software development. In his experience, software had been free, in the sense that the source code was freely accessible and could be freely modified. But by the early 1980s, this norm was changing....The story with culture is somewhat different. We didn't begin with a world without proprietary culture. Instead, there has always been proprietary culture - meaning work protected by an exclusive right. And in my view at least, that's not a bad thing either. Artists need to eat. Authors, too. A system to secure rewards to the creative community is essential to inspiring at least some creative work.... [The aim of Creative Commons, therefore] is not to eliminate 'proprietary culture' as at least some in the Free Software Movement would like to eliminate proprietary software. Instead, we believed that by building a buttress of free culture (meaning culture that can be used freely at least for some important purposes), we could resist the trends that push the other way. Most importantly, the trend fuelled by the race to 'digital rights management' (DRM) technologies (Lessig, 2005).

A copyright-holder distributing content online under one of the cc licences allows non-commercial copying and sharing of the work, as long as he or she, as the author or creator, is given attribution. The different licences then allow even further rights to the user, depending on how open the copyright-holder wants the content to be. The licences specify conditions of use and re-use, including whether the user can make commercial use of the content, and/or make derivatives (such as translations, or remixes). Also specified in each licence is whether the user must "share alike" (under the same terms) any derivatives or copies she or he makes of the work. Each cc licence comes in three layers:

- the Commons Deed: a simple, plain-language summary of the licence;
- the legal code: the fine print specified by the local legal fraternity in the country of jurisdiction; and
- the digital code: a machine-readable translation of the licence that helps search engines identify the work by its terms of use.

The cc Developing Nations licence allows an author to specify freer terms of use in the developing world than in developed nations, thus allowing an author “to participate first-hand in reforming global information policy” (Creative Commons, 2005).

AFRICA AND THE COMMONS

Africa’s two regional intellectual property organisations, OAPI in West Africa and ARIPO in Southern Africa, are not at present playing a strong role in pushing for a more development-oriented intellectual property dispensation. They have strong links to the WIPO bureaucracy in Geneva and mostly focus on ensuring African compliance with international obligations. More activist in orientation are the United Nations Economic Commission for Africa (UNECA) and the African Union’s NEPAD programme, but neither of these can be said to have tackled intellectual property issues with vigour. Meanwhile, the United States is seeking TRIPS Plus intellectual property clauses in its FTAs with African countries. The United States has already succeeded in securing TRIPS Plus provisions in its recent FTA with Morocco, and there have been signs of a clear push for similar measures in the on-again, off-again FTA negotiations between the United States and the Southern African Customs Union (SACU), the trading block made up of South Africa, Swaziland, Lesotho, Botswana, and Namibia. The United States has also been in FTA talks with Egypt, and it can be expected that similar TRIPS Plus provisions will be sought in this FTA. Included in the typical basket of American TRIPS Plus provisions are elements related to copyright, including copyright term extension, and the acceptance of the widespread use of TPMs in line with the DMCA (Prabhala & Caine, 2005).

Aggressive copyright protection, and technological encroachments on traditional fair dealing via TPMs, are worldwide problems, but they can have particularly negative consequences in Africa, which is home to some of the world’s poorest nations, many of which are hard-pressed adequately to fund their education systems. As an example of the exploitative power copyright can generate, there is evidence of prohibitive textbook pricing practices among international publishers serving African markets (A2LM in Southern Africa, 2005). There are now efforts underway to support African governments’ efforts to use existing flexibilities in international copyright law, to avoid being coerced into TRIPS Plus provisions in FTAs, and even to make use of TRIPS exceptions such as parallel importing where educational book prices are clearly unreasonable. The Commonwealth of Learning (CoL), an

inter-governmental organisation funded by Commonwealth member states, convened a meeting of copyright experts in Johannesburg in May 2005, and developed a valuable blueprint for a more developmental copyright dispensation. The *Document for Commonwealth Countries on Copyright Matters in Education* calls for countries to audit their copyright laws and ensure the following:

- extended exceptions for education, including literacy and adult basic education;
- the power to implement parallel importing of materials when they can be sourced more cheaply in another country;
- minimal limitations on use of copyright works in computer-based distance learning environments;
- default public domain access to government documents;
- generous copying provisions for course packs, and allowance for copying of entire works for use by teachers; and
- specific copyright law amendments catering to “educational use of the Internet” to ensure that educational use of publicly-available materials on the Internet does not constitute copyright infringement (CoL, 2005).

CoL and the International Federation of Library Associations (IFLA) are also supporting the development of the African Copyright Forum (ACF), which held its founding pan-African conference in Uganda in late 2005, hosted by the Uganda Library and Information Association (ULIA) and the National Library of Uganda (NLU).

Another critical area of engagement for many African governments is traditional knowledge (TK). African nations are rich in TK, indigenous knowledge (IK), and traditional cultural expressions (TCEs, or “folklore”). These types of intellectual output do not easily fit within the existing intellectual property system, for several reasons:

- ownership: much traditional or indigenous knowledge is, by its very nature, communally-held, not lending itself to the notions of private ownership that lie at the heart of the international patent, trademark, and copyright systems.
- time: much of traditional or indigenous knowledge is, by its very nature, old, and seemingly “always there”, rendering time limits unsuitable (20 years for patents, author’s life plus 50 years for copyright).
- physical representation: many examples of TCEs/folklore are not physically tangible, existing only in the minds of those who know them, and only seldom “performed” in an oral form, while the systems of patent, trademark, and copyright are based on protection of physically manifested (audio, visual, text, performance) representations.
- redress: in many instances, TK, IK, and TCEs/folklore have been exploited for economic gain by people or firms not connected to the community from which the TK, IK, or

TCEs/folklore comes. The existing WTO-WIPO intellectual property dispensation does not cater to notions of “redress” or special rights for intellectual property that has been abused and exploited unfairly.

What, then, can the “digital commons” offer to the protection of African traditional knowledge? In some cases, a strong argument can be made for not recording, digitising and granting networked public access to an instance of TK, IK, or TCE/folklore. For intangible intellectual property, digital documentation or representation has the potential to undermine the very nature of the knowledge or to make it vulnerable to individual – as opposed to collective – claims of ownership. In other cases, however, digitisation and public-sharing of information may assist a community in controlling, and benefiting from use of the knowledge, particularly commercial use. An indigenous group may, for example, decide to take steps to prevent use (recording, documentation and archiving/distribution) of certain sacred rituals, while at the same time actively documenting and establishing ownership over something (a style of art, for example) that is not sacred and which could have commercial benefit. In both cases, some kind of publicly-lodged description of the TK could be of use in assertion of ownership and demarcation of acceptable usage.

WIPO’s Intergovernmental Committee (IGC) on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore has in recent years been developing draft *sui generis* (appropriate to the situation) models for consideration by governments. The South African government has adopted an Indigenous Knowledge Systems (IKS) Policy, which is an example of the kind of *sui generis* measure African nations are being encouraged to institute. The policy is to be overseen and implemented by an interdepartmental committee made up of representatives from 14 government departments, including Science and Technology, Education, Trade and Industry, Health and Arts and Culture. The policy attempts to find a balance between respecting and protecting tradition on the one hand and enabling community economic development through commercial use on the other. Approved in late 2004 and still in its initial stages, the policy includes structures for government engagement with South African traditional leaders and indigenous knowledge holders (SA DST, 2004).

There is growing policy advocacy around intellectual property matters on the continent, including the APC Africa ICT Policy Monitor web site (APC Africa, 2005). Projects that deal more specifically with copyright include L’Association pour la Promotion des Sciences de l’information Documentaire (APSID-CI) in Cote D’Ivoire, a librarians’ trade association that advocates for relaxation of the country’s copyright laws around fair dealing and stages public events, including a recent ‘Book Caravan’ in Abidjan. The Access to Learning Materials (A2LM) in Southern Africa project, headquartered in Johannesburg, combines calls for greater copyright flexibilities with research around the affordability of learning materials in

Southern African countries and the implications of TRIPS Plus copyright provisions in the US FTA talks with the SACU bloc. The Wits University LINK Centre's Commons-sense Project, from which this paper emerges, is contributing to research around the relevance of intellectual property alternatives for African creativity, innovation, and development.

Open access initiatives, driven mostly by university libraries and distance learning programmes, are also becoming more common on the continent. The AIM Laboratory at the University of Cape Town provides assistance to several African universities on the development of open access platforms. Other initiatives such as the Database of African Theses and Dissertations (DATAD) Project at the Association of African Universities, the Rhodes eResearch Repository (ReRR) at Rhodes University, and the University of Namibia (UNAM) Institutional Repository are leading efforts towards establishing access-friendly university copyright policies aimed at making African research more widely available. Meanwhile, the African Virtual University (AVU) has begun piloting MIT OpenCourseWare (OCW) modules at sites in Kenya and Ethiopia (AVU, 2005).

The FLOSS movement is relatively strong in Africa, as typified by the KEWL and OLS open source learning management systems developed in South Africa at the University of the Western Cape (UWC) and University of KwaZulu-Natal respectively. UWC is also collaborating with other African nations on open source through the AVOIR consortium.

Schools have the potential to be in the vanguard of the African digital commons movement. The NEPAD e-Schools project aims to support Internet connectivity for all of the continent's high schools within five years, and primary schools in 10 years, via wired and wireless systems. The first such e-School was launched in Uganda in July 2005. The Catalysing Access to ICTs in Africa (CATIA) project is attempting to build regulatory momentum towards freer national rules on the continent for the use of VSAT satellite, an important wireless connectivity solution for schools, particularly schools in rural areas. SchoolNet Africa, with a presence in more than two dozen African countries, is building technical management and troubleshooting skills at school level through its online course for technical managers.

The Commonwealth of Learning (CoL)'s Learning Objects Repository (LOR) provides open content course materials (free to use, copy, distribute, adapt) for teachers in all Commonwealth countries, using a free and open source software platform developed in Canada. Meanwhile, SchoolNet Africa is providing shared continental online networking spaces for teachers and learners through their African Education Knowledge Warehouse (AEKW) and African Teachers Network (ATN). In Senegal, the Examen project, started in 2001, is a free web resource that helps high school students prepare for examinations and make career choices, with a focus on mathematics and science. Examen also has online resources for teachers and school principals. South Africa's Free High School Science Texts

(FHSST) project, initiated by graduates of the University of Cape Town, is an online collaboration among materials developers around the world to build free science textbooks for Grades 10-12. Also in Cape Town, the Shuttleworth Foundation's Online Text Book project aims to deliver free open content science, technology and entrepreneurship teaching materials. There is a role for African state education departments to play in seeking out publishers and firms willing to develop open access and open content resources (publishers and firms willing to sign away certain of the usual default copyright rules for materials they are paid to develop). South Africa's Department of Education started moving in this direction in 2005, providing open content, curriculum-aligned materials for teachers and learners via its Thutong web portal.

Because of the initiatives being launched today, in the years to come many African students may well have their first encounters with the Internet via free software and teaching materials provided as open content, thus potentially building a cadre of future commons adherents.

Finally, there are increasing examples on the continent of people, organisations and companies giving up some of their default copyright exclusivities by using open content licences such as those developed by the international Creative Commons (cc) project. These open content proponents come from the media sector (Highway Africa News Agency, M&G Online), the education sector (UWC, SchoolNet Namibia, Thutong), the publishing sector (HSRC Press in South Africa) and the development sector (Shuttleworth Foundation, APC, Women'snet). Artists, bloggers, and technologists (the Swahili ICT Glossary project, for instance) are also using cc licences to invite contributions and remixes of their work. South Africa is currently the only African country to have "ported" the Creative Commons licences into its national jurisdiction, with the launch of ccSA licences in May 2005. Nigeria will probably be the second African country to join this movement, and groupings in Uganda, Tanzania and Ghana are also starting up cc projects.

CONCLUSION

Africa faces significant barriers to the widespread exploitation of intellectual property alternatives presented by the open content and open access movements, not the least of which is pressure from powerful trading partners such as the United States to apply even stricter intellectual property rights. African governments, often lacking the policy-making capacity needed to engage with an intellectual property field that seems to grow in complexity on a daily basis, find it difficult to resist the maximalist rights agenda that predominates among the developed nations where the dominant intellectual property holders are based.

Yet, in spite of these difficulties, the latter portion of this article has shown that there is a growing movement on the continent of scholars, education providers, technologists and

activists who recognise the importance of finding alternatives – with the idea that collectively-held knowledge, a time-honoured African tradition, can and should often form the starting point for education, innovation, creativity and economic development. □

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